THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KOICHI INOUE

Appeal No. 1997-2844
Application No. 08/242,881

ON BRIEF

Before JERRY SMITH, FLEMING, and GROSS, Administrative Patent Judges.

GROSS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 through 6, which are all of the claims pending in this application.

Appellant's invention relates to a hysteresis circuit which varies a threshold level for inverting the condition of an output of a comparator according to the condition of the

output. The comparator is provided with an input voltage and with a threshold voltage equal to the output of a voltage dividing circuit. A switching circuit is set to an ON condition when a constant current output from a constant current circuit is provided to the voltage dividing circuit and set to an OFF condition when the constant current is not provided to the voltage dividing circuit. Claim 1 is illustrative of the claimed invention, and it reads as follows:

1. A hysteresis circuit comprising:

a voltage dividing circuit which outputs a voltage resulting from a division of a reference voltage by resistors;

a comparator is provided with a) said output voltage of the voltage dividing circuit as a threshold voltage and b) an input voltage;

a constant current circuit which converts a temperature-compensated reference voltage into a current using a resistor; and

a switching circuit being ON and OFF controlled according to an output of the comparator, said switching circuit being set to an ON condition where a constant current output from the constant current circuit is provided to the voltage dividing circuit and being set to an OFF condition where the constant current is not provided to the voltage dividing circuit,

wherein an output voltage of the voltage dividing circuit differs between when the constant current is provided

to the voltage dividing circuit and when the constant current is not provided to the voltage dividing circuit, so that the threshold level of the comparator differs.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Bufano, Jr. et al. (Bufano)	4,751,405	Jun. 14, 1988
Fujita	4,926,068	May 15, 1990
Stakely et al. (Stakely)	5,122,680	Jun. 16, 1992
Thelen, Jr.	5,231,316	Jul. 27, 1993

Claims 1, 2, 5, and 6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Stakely.[1]

Claims 4 stands rejected under 35 U.S.C. § 103 as being unpatentable over Stakely.

[1] We note that on page 2 of the Answer the examiner withdrew the rejection of claims 1 through 6 under 35 U.S.C. § 112, second paragraph, as being indefinite and the rejection of claim 3 under 35 U.S.C. § 102(b) as being anticipated by Stakely.

Claims 1 through 6 stand rejected under 35 U.S.C. § 103 as being unpatentable over Fujita in view of Bufano and Thelen.

Reference is made to the Examiner's Answer (Paper No. 16, mailed July 8, 1996) and the first Supplemental Examiner's Answer (Paper No. 18, mailed October 11, 1996) and the second Supplemental Examiner's Answer (Paper No. 20, mailed February 20, 1997) for the examiner's complete reasoning in support of the rejections, and to appellant's Brief (Paper No. 15, filed May 1, 1996), Reply Brief (Paper No. 17, filed September 9, 1996), and Supplemental Reply Brief (Paper No. 19, filed December 11, 1996) for appellant's arguments thereagainst.

OPINION

We have carefully considered the claims, the applied prior art references, and the respective positions articulated by appellant and the examiner. As a consequence of our review, we will affirm the anticipation rejection of claims 1, 2, 5, and 6 and the obviousness rejection of claim 4 over Stakely and reverse the obviousness rejection of claims 1 through 6 over Fujita, Bufano, and Thelen.

Appellant's sole argument against the anticipation of claims 1, 5, and 6 by Stakely is that Stakely "does not show, teach or suggest that when the switching circuit is set to an ON condition, a constant current output from a constant current circuit is provided to a voltage dividing circuit (or voltage dividing point)." (See Brief, page 12). Stated another way, appellant contends (Brief, page 13) that "the switch 18 of Stakely et al controls the input to a comparator and does not control the input to a voltage dividing circuit (or voltage dividing point)."

The claim limitation in question for claims 1 and 6 reads, "said switching circuit being set to an ON condition where a constant current output from the constant current circuit is provided to the voltage dividing circuit." In Stakely, if we consider resistor R1 as part of the constant current circuit and resistors R3, R5, and R8 as the voltage divider, as the examiner has done, the switch means 18 is set to ON (or connected to node N5) where the current output from the constant current circuit (or from R1) is provided to node N5 through R3 of the voltage dividing circuit. On the other hand, when the switch means is set to OFF (or connected to

node N4), the output from the constant current circuit (or from R1) is provided to node N4 without going through the voltage dividing circuit (R3, R5, and R). Therefore, when the output of the comparator controls which switching threshold, N4 or N5, is being used, it likewise controls whether the output from the constant current circuit is provided to the voltage dividing circuit, as recited in the claims. Consequently, the claim language for claims 1 and 6 is met by Stakely, and we will affirm the anticipation rejection of claims 1 and 6.

Claim 5 was not argued separately from claims 1 and 6. Accordingly, we will affirm the anticipation rejection of claim 5. Further, as to claim 2, appellant merely restates the claim limitation, which is insufficient as an argument for separate patentability. As stated in 37 CFR § 1.192(c)(7),

> For each ground of rejection which appellant contests and which applies to a group of two or more claims, the Board shall select a single claim from the group and shall decide the appeal as to the ground of rejection on the basis of that claim alone unless a statement is included that the claims of the group do not stand or fall together and, in the argument under paragraph (c)(8) of this section, appellant explains why the claims of the group are believed to be separately patentable. Merely pointing out differences in what the claims cover is

> not an argument as to why the claims are separately patentable. (Underlining added for emphasis)

Therefore, we will affirm the anticipation rejection of claim 2.

Regarding the obviousness rejection of claim 4 over Stakely, appellant argues (Reply Brief, page 2) that "nothing in Stakely et al. shows, teaches, or suggests that it is obvious to include the comparator, constant current circuit and switching circuit in addition to the voltage divider in a one chip semiconductor integrated circuit." However, as asserted by the examiner (Answer, page 7, and Supplemental Answer, page 2), it is well known in the art to form multiple elements on the same semiconductor chip to match or make uniform the effects of process parameters. Further, the examiner's rejection of claim 4 is not a hindsight reconstruction based on information from applicant's own specification, as contended by appellant (Supplemental Reply Brief, page 3). Instead, the examiner has used the common knowledge of a person of ordinary skill in the art, which the court has said may be properly relied upon for a conclusion of obviousness without any specific teaching in a particular

reference. See In re Bozek, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969). Therefore, we will sustain the rejection of claim 4 over Stakely.

On the other hand, we generally agree with appellant's arguments against the rejection of claims 1 through 6 over Fujita, Bufano, and Thelen. Specifically, appellant explains (Brief, page 17) that in Fujita "it is necessary that the resistor R should have one end connected to ground V_{GND} and the other end not connected to any voltage. This is because the voltages V_{REF}+ and V_{REF}- are generated at the other end of the resistor R where the constant current flows." Appellant continues (Brief, page 18),

> On the other hand, at the voltage dividing point 12 of Bufano, Jr. et al a voltage is generated by dividing Vdd. Therefore, it is impossible to combine Bufano, Jr. et al with Fujita since the combination would not allow the generation of a positive and negative voltage so that the ground voltage V_{GND} which is a [sic] stable is symmetrical with respect to the generated voltages V_{REF}.

In other words, the combination of Bufano and Fujita would not allow the comparator of Fujita to operate as intended. "[A] proposed modification [is] inappropriate for an obviousness inquiry when the modification render[s] the prior art

reference inoperable for its intended purpose. In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984)." In re Fritch, 972 F.2d 1260, 1265-66 n.12, 23 USPQ2d 1780, 1783 n.12 (Fed. Cir. 1992). Therefore, Bufano is not properly combinable with Fujita.

The examiner applies Thelen for a teaching of a constant current circuit which converts a temperature compensated reference voltage into a current. However, Thelen does not cure the deficiency in the combination of Bufano and Fujita. Accordingly, we cannot sustain the rejection of claims 1 through 6 under 35 U.S.C. § 103 over Fujita, Bufano, and Thelen.

CONCLUSION

We have affirmed the decision of the examiner rejecting claims 1, 2, 5, and 6 under 35 U.S.C. § 102 and rejecting claim 4 under 35 U.S.C. § 103 over Stakely is affirmed. We have reversed the decision of the examiner rejecting claims 1 through 6 under 35 U.S.C. § 103 over Fujita, Bufano, and Thelen. Therefore, the decision of the examiner rejecting claims 1 through 6 is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

JERRY SMITH Administrative Patent Judge	)	
MICHAEL R. FLEMING Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
ANITA PELLMAN GROSS Administrative Patent Judge	)	

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